

Bio-data

1. Full Name: Mr. **Krishnat D. Masalkar**

2. Date of Birth: 08-09-1982

3. Designation: Assistant Professor,
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5. Educational Qualification: M.Sc., SET, NET

1) B.Sc. (Mathematics): In 2003, First class with Distinction from
Walchand College, Solapur.

2) M.Sc. (Mathematics): In 2005, First class from Department of Mathematics,
Shivaji University, Kolhapur.

6. Experience:

(a) Teaching: Total 21 years (under graduate and post graduate).

7. Member:

- Life Member of the Indian Mathematical Society [IMS].
- Life Member of the Indian Science Congress Association [ISCA].

Publications:

1. Krishnat Masalkar, Subhash Kendre, “Higher order Melnikov functions for piecewise smooth differential systems with four zones”, *Gulf Journal of Mathematics*, 22, 2(2026),1-25.
2. Krishnat Masalkar, Nanasaheb Phatangare, Subhash Kendre, “Bifurcations of limit cycles in piecewise smooth Hamiltonian system with boundary perturbation”, *Differential Equations and its Applications, Ele-math*, vol 14, Number 4(2022), 499-524.
3. Krishnat Masalkar, Nanasaheb Phatangare, Subhash Kendre, “Limit cycles in piecewise smooth differential systems of focus-focus and saddle-saddle dynamics”, *Computational Methods for Differential Equations*, 13,2(2025), 395-419.
4. Krishnat Masalkar, Nanasaheb Phatangare, Subhash Kendre, “Limit cycles of piecewise smooth differential systems of the type nonlinear centre and saddle”, *Journal of Difference Equations and Applications*, Taylor and Francis Publisher, 30,12(2024), 1900-1922.
5. Krishnat Masalkar, Nanasaheb Phatangare, Subhash Kendre, “Limit cycles of piecewise smooth differential systems with nilpotent center and linear saddle”, *Memoirs on Differential Equations and Mathematical Physics*, 2025, 1-18
6. Krishnat Masalkar, Parag Tamhankar, Satish Kolhe, “SEGMENTATION OF OVERLAPPING, SKEWED, AND TOUCHING LINES IN HANDWRITTEN MODI SCRIPT DOCUMENTS”, *International Journal of Computer Science & Applications*, 2017, Vol 14, Issue 2, p64.
7. Krishnat Masalkar, Parag Tamhankar, Satish Kolhe, “Novel Approach for Character Segmentation of Offline Handwritten Marathi Documents written in MODI Script”, *Procedia Computer Science*, Elsevier Publisher, volume 171,2020, 179-187.
8. Krishnat Masalkar, Parag Tamhankar, Satish Kolhe, “Character recognition of offline handwritten Marathi documents written in MODI script using deep learning convolutional neural network model”, *Recent Trends in Image Processing and Pattern Recognition*, Springer nature Publisher, 478-487.
9. Masalkar Krishnat D, Naik, Uday H., Hiremath, Channayya, “ON THE COEFFICIENT ESTIMATES OF NEW SUBCLASSES OF BI-UNIVALENT FUNCTIONS”, *Palestine Journal of Mathematics*, 2023, Vol 12, Issue 1, p361
10. Krishnat Masalkar, Anita Lande and Anil Khairnar, “SPECTRUM OF THE GENERALIZED ZERO-DIVISOR GRAPHS”, *South East Asian J. of Mathematics and Mathematical Sciences*, Vol. 21, No. 2 (2025), pp. 25-42.

11. Vikas Kulal, Anil Khairnar and Krishnat Masalkar, "Annihilator ideal graph of Lattice", Palestine Journal of Mathematics, Vol 11(4)(2022), 195-204.
12. Vikas Kulal, Anil Khairnar and Krishnat Masalkar, Lata Kadam, "Weakly zero divisor graph of Lattice", Communications in Mathematics and its Applications, RGN Publications, 14(3)(2023), 1167-1180.
13. L. N. Kamble, Vikas Kulal, A. S. Khairnar, K. D. Masalkar "On the existence of regular 3-partite self-complementary and almost self-complementary 3-uniform hypergraphs," (Communicated).

Books:

- 1) Co-author of books published by Nirali Publication on topics in the syllabus of F.Y.B.Sc., S.Y.B.Sc. Mathematics, Savitribai Phule Pune University.

Paper presentations:

Presented 05 research papers in different International / National conferences.